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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/528,766	03/17/2000	Martin L. Radue	OMCO:0056	5306

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Patrick S Yoder
Fletcher Yoder & Van Someren
P O Box 692289
Houston, TX 77269-2289

EXAMINER

SOLAK, TIMOTHY P

ART UNIT

PAPER-NUMBER

3746

DATE MAILED: 03/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/528,766

Applicant(s)

RADUE, MARTIN L.

Examiner

Timothy P. Solak

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 22 January 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

FINAL ACTION***Drawings***

The proposed drawing corrections and/or the proposed substitute sheets of drawings, filed on 01/22/2002, have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-9, 12-16 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hultman (4,787,823), in view of Martin (4,616,930). Hultman teaches a reciprocating fuel pump (column 2, lines 63-66) comprising: a drive section 30 and a pump section 76. Hultman teaches a drive assembly 48 located within the central volume of the drive section (see Figure 1) includes: a drive member 50, a seal 92, an inlet check valve 98, an outlet check valve 104, a nozzle 200, a first magnet 40 and a coil assembly 64 having a winding. Hultman discloses the coil assembly is "movable reciprocally axially along a central axis upon application of alternating polarity signals to the winding" (column 7, lines 24-27). Hultman further discloses a pump member 72 is secured to and movable with the coil assembly.

Although Hultman teaches most of the limitations of the claims including a permanent magnet used in a reciprocating pump (column 1, lines 26-33) and that electro-magnet 40 is used *in place of a permanent magnet (column 5, lines 11-14)*, he does not disclose an embodiment using a permanent magnet. It was old and well known in the art of magnetics that a common magnetic field could be provided by either, an ordinary permanent magnet or it's art related equivalent, an electromagnet. Further it was well known in the art that using a permanent magnet in place of an electromagnet advantageously improved field stability, reduced power consumption and/or eliminated heating effects (Martin column 2, lines 58-66). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a permanent magnet in the pump disclosed by Hultman, to have advantageously improved field stability, reduced power consumption and/or eliminated heating effects.

Claims 3, 10-11 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hultman, in view of Martin (both mention previously), in further view of Lequesne (4,829,947). Although Hultman teaches most of the limitations of the claims including a reciprocating fuel pump with a permanent magnet, he does not disclose at least two permanent magnets in different locations. Lequesne disclosing a magnetic actuator, specifically teaches at least two permanent magnets 37-38 located in different positions (see Figures 1-3). Lequesne teaches the permanent magnets and their locations advantageously completed the magnetic circuit (column 5, lines 58-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the permanent magnets taught by

Lequesne, in the pump disclosed by Hultman, to have advantageously completed the magnet circuit.

Response to Arguments

Applicant's arguments filed 01/22/2002 have been fully considered but they are not persuasive.

In response to applicant's argument that "the Examiner has taken Official Notice of facts outside of the record", is incorrect. The Examiner has only reiterated that which is "old and well known" and supported by the cited references. The Examiner has not relied on Official Notice in the rejections.

The rejection of claims 1-2, 4-9, 12-16 and 19-24 states:

"It was old and well known in the art of magnetics that a common magnetic field could be provided by either, an ordinary permanent magnet or it's art related equivalent, an electromagnet"

Hultman teaches:

"It is known to provide an electromagnetic linear motion motor based on the principle of generating a linear force by the interaction of two magnetic fields to cause relative movement between magnetic members. Generally, one of the magnetic fields is produced by one magnetic member such as, a permanent magnet which is generally held stationary relative to another magnetic member such as, an electric coil assembly in which unidirectional (DC) current flows to produce the other magnetic field and which assembly is movable relative to the permanent magnet." (Column 1, lines 23-33)

Hultman specifically teaches a magnetic field could be provided by either an electromagnet or a permanent magnet. No Official Notice has been given and the rejection is proper.

In response to applicant's argument, namely no "convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in the light of the teachings of the references", again the rejections only apply that which was old and well known in the art, namely that using a permanent magnet in place of an electromagnet advantageously improved field stability, reduced power consumption and/or eliminated heating effects (Martin column 2, lines 58-66).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves **or in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Martin supplies the motivation, namely improved field stability, reduced power consumption and/or eliminated heating effects (Martin column 2, lines 58-66), that would have encouraged one of ordinary skill in the art to substitute a permanent magnet in place of an electromagnet coil in the *fuel pump* disclosed by Hultman.

No components of the apparatus disclosed by Martin have been used in the combination. The Martin reference is used only to support that which is old and well known in that art of magnetics, a field of endeavor extremely pertinent to the particular problem with which the applicant was concerned. No Official Notice has been given. Only that which is old and well known in the art, as supported by Martin, has been restated. Therefore this argument is not persuasive and the rejection proper.

In response to applicant's argument that the combination of prior art teaches away from the Hultman reference, applicants rely on the performance or non-performance of a future act of use and not upon any particular structural relationship set forth in the claims. Applicant's argument implies that Hultman teaches a pump using a permanent magnet is "unsatisfactory for fluid pumping applications". Hultman teaches:

"Known liner motors that operate on the principal of interactive magnetic fields generally have a short stroke and produce a low force and are unsatisfactory for fluid pumping applications wherein it is required to pump a large volume of fluid at high rate and/or at a relatively high pressure." (Column 1, lines 54-59).

Whether or not a pump, either the one disclosed by applicants, Hultman or a pump resulting from the combination of prior art (the fuel pump disclosed by Hultman (Figure 1), driven by the motor disclosed by Hultman (column 1, lines 23-33)) is used to pump "large volume of fluid at high rate and/or at a relatively high pressure" is dependent upon a future act of use and not upon any particular structural relationship set forth in the claims. Therefore this argument is not persuasive and the rejection is proper.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's arguments concerning the Lequesne reference, the arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Conclusion


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy P. Solak whose telephone number is 703-308-6197. The examiner can normally be reached on Monday through Thursday from 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 703-308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.


CHARLES G. FREAY
PRIMARY EXAMINER


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March 16, 2002